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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CROWE, DAVID R	
ART UNIT	PAPER NUMBER
2885	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/582,889	GRAHAM, MORTON	
	Examiner	Art Unit	
	DAVID R. CROWE	2885	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/12/2009 has been entered.

Specification

2. The abstract of the disclosure is objected to because rod [10] is referred to as a translucent material but claimed as a transparent member. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 6-10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham (WO 02/103658).

5. Re claim 1: Graham teaches an illumination device [10] comprising an elongate transparent member [16] of a material having substantially total internal reflection of light, an LED [30] light source [15] located at least at one edge of the transparent member to pass light into and along the member by primary diffusion of the light [abstract], and a second elongate member [32] arranged in superimposed relationship with the elongate transparent member [16] thus to define a gas space [38] there between; characterized in that the transparent member [16] is adapted, in use, to function as a leaky wave guide allowing light to escape into the gas space for secondary diffusion therein, and in that the second elongate member is of a translucent and not a transparent material thus being adapted to diffuse and be illuminated by the secondarily diffused light. [See pages 4-10 and figure 2]

Graham fails to teach the gas space is about 2 mm.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the width of the air gap of Graham to 2 mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2nd 272, 205 USPQ 215 (CCPA 1980). Graham teaches the variable [gap width] effects the diffusion of light to increase uniformity [see page 9 lines 5-7] and that the gap width may be proportional to the intensity of the light from the light source [page 8 lines 3 and 4]. Therefore one of ordinary skill would be motivated to provide only a 2 mm gap width when a dim light

source is being used, or where packaging size is of more concern than the full uniformity of the emission light.

6. Re claim 6: Graham teaches the LED light sources [30] are separately disposed at opposite ends of the elongate transparent member.

7. Re claim 7: Graham teaches a reflector [44] disposed on a part of the surface [20] of the elongate transparent member [16].

8. Re claim 8: Graham teaches a reflector/ reflective property disposed on a part of the surface of the second elongate member, facing the elongate transparent member as understood from, "Part of the inner surface [facing plate [16] of the cover [32] may be reflective." [Page 5, paragraph 3]

9. Re claim 9: Graham teaches the first elongate member is of an acrylic material. [Page 7, paragraph 2]

10. Re claim 10: Although Graham fails to explicitly teach the second translucent member [14] being made from acrylic or polycarbonate, it would have been obvious to one of ordinary skill in the art to select acrylic or polycarbonate as the material of the second member since the first member is already made from said materials, and it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. In re Leshin, 125 USPQ 416. One

would be motivated to select a material based on the materials combination of cost, optical properties and ability to manufacture in the desired configurations.

11. Re claim 13: Graham teaches an enclosure [38] formed by the combination of the illumination means [12] and the diffusion means [14]. Graham teaches that light can not escape the enclosure other than through the diffusion means. Therefore the illumination means and diffusion means must be connected by "support means" which provide the spatial relationship between the first member [16] and second member [14]. [The “support means” are not found to be limited by 112[6] to the items [16] of the present invention which support a tube outside of a rod because the tube and rod are not required by the claim.]

12. Re claim 14: Regarding the co-extrusion of the reflector [44] with the second member [14], the applicant is advised that, even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 227 USPQ 964, (Fed. Cir. 1985). In this case, the cited limitations failed to distinguish the claimed structure from the patented illuminated device of Graham. See MPEP § 2113

13. Re claim 15: Although Graham does not disclose the extent of the inner surface which is reflective, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make ¼ of inner surface 34 of Graham reflective in order to selectively determine the direction of illumination emitted from the device.

14. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham in view of Thompson (US 4,561,043). The teachings of Graham have been discussed above.

15. Re claim 2: Graham fails to teach the transparent member being a rod of circular cross section and the second member being a tube surrounding the rod and defining the gas space therein.

Thompson teaches a light transmitting rod [16] with a light source [11] emitting light into the end thereof and a translucent tube [34] surrounding the rod [16] and defining a gas space there between.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shapes of the components of Graham as suggested therein with respect to modification of the shape of plate [16] and cover [14] into the configuration taught by Thompson to create the transparent member [16] of Graham as a round rod and cover [14] of Graham as a tube analogous to the edge lit rod [16] and tube [34] of Thompson, since it has been held that the mere change in shape of

components disclosed in the prior art is within the ordinary skill of a worker in the art. *In re Dailey*, 149 USPQ 47 (CCPA 1976). One skilled in the art would be motivated to change the shape of Graham to a tube configuration in order to provide light emission in a 360 degree spread to be seen from all sides.

16. Re claim 3: Graham fails to teach the elongate transparent member [16] having an undulating surface.

Thompson teaches an elongate light transmission member [16] with an undulating surface [47].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shapes of the components of Graham as suggested therein with respect to modification of the shape of plate [16] and cover [14] such that plate [16] of Graham has an undulating surface [18] as shown by Thompson, since it has been held that the mere change in shape of components disclosed in the prior art is within the ordinary skill of a worker in the art. *In re Dailey*, 149 USPQ 47 (CCPA 1976). One skilled in the art would be motivated to change the shape of Graham to an undulating configuration in order to provide decorative illumination devices in unique eye catching designs.

17. Re claim 4: As applied to Graham modified by the teachings of Thompson in claim 2, the Thompson teaches the rod [16] is of circular cross-section. [See figure 3]

18. Claims 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham in view of Oyama (US 5,233,679). The teachings of Graham have been discussed above.

19. Re claim 11: Graham fails to teach using striation on a surface of the first elongate member [16].

Oyama et al teaches a translucent member [10] which is illuminated by a light source [20] through the end [28] of the fiber. The fiber [10] further including striations [16] formed on the light radiating surface of the first member to cause light entering the edge of the body to be emitted out of the body through the radiating surface. [See figure 1, column 4 line 17 through column 5 line 16]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the first member [16] of Graham to include striations as taught on the fiber [10] of Oyama in order to provide a uniform diffuse light out of the first member and through to the second member [14] of Graham at an arc larger than provided by the reflector [44] of Graham.

20. Re claim 16: As applied to Graham modified by Oyama, Oyama further teaches a plurality of striations cut in the surface of the first translucent member; the V-shaped striations thus created extend at least substantially throughout the length of the first

member and are spaced apart around at least a part of the extent of the surface of the first member.

Although Graham modified by Oyama fails to explicitly suggest the depth and width of the striations, it would have been obvious to one of ordinary skill in the art at the time the invention was made to cut the grooves between .5 and 1 mm in size, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum range involves only routine skill in the art. In re Aller, 105 USPQ 233. One skilled in the art would be motivated to select to depth and width of the striations to optimize the diffusion and light emitting effects for the first member.

21. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graham modified by Oyama as applied to claim 11 in further view of Yamamoto et al (US 6,601,984). The teachings of Graham modified by Oyama have been discussed above.

Graham modified by Oyama fails to teach increasing the striation in the central portion of the first member away from the ends.

Yamamoto et al teaches a translucent member [1] with at least one LED [2] disposed on each end of the member [1], and grooves [11] formed in the first member for diffracting light out of the member. Yamamoto teaches increasing the striation [increasing the density of grooves by moving them closer together] in the central region of the light member [1] further from the LEDs at the edges of the member. "It is desirable to set a wider interval between grooves 11 on the ends of the light-guiding

member 1, that is, near the LEDs 2, and to gradually narrow the intervals going away from the LEDs 2." [See figures 1 and 2, column 4 line 66 through column 5 line 62]

It would have been obvious to one of ordinary skill in the art to increase the striation of the first member [16] of Graham modified by Oyama in the central portion of the member away from the light sources in order to, "Achieve a uniform illumination along the entire length of the light-guiding member 1," as suggested by Yamamoto.

22. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graham modified by Oyama and Yamamoto et al (US 6,601,984) as applied to claim 12 above in further view of Kuo (US 2004/0075994). The teachings of Graham modified by Oyama and Yamamoto have been discussed above.

Graham modified by Oyama and Yamamoto teaches using striation which increases away from the light sources but fails to suggest doing so with additional striations occupying less than the overall length of the first member as claimed.

Kuo teaches a first translucent member [light guide 2] having striations [veins 30] disposed on the surface therefore to facilitate light incident on the light guide [2] view light source [1] disposed at the end thereof being emitted from the light guide [2] out of the emission face thereof. As clearly shown in figure 7, the density of the veins [31] increases with distance from the light source, thereby maintaining uniform emission, in a manner similar to that suggested by Yamamoto. Further, the increase in density/number of veins at the far side of the light guide is provided by angling the veins

such that they meet at a central distance position and some of said veins do no originate at the incident face of the light guide, thereby occupying less than the overall length of the light guide as claimed. [See figures 7 and 8, paragraphs 19-25]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the striations of Graham modified by Oyama and Yamamoto to include striations that do no run the full length of the translucent member [10] as shown in Kuo as just one of a number of striation patterns known in the art to refract more light out of a light guide at a position further from the light source in order to maintain a uniform light emission pattern.

Response to Arguments

23. Applicant's arguments filed 6/12/2009 with respect to claim 1 on pages 5 and 6 have been fully considered but they are not persuasive.

The applicant argues, “Graham, contrary to the presently recited width of the gas space, teaches a gap of not less than 30mm (page 5, fourth paragraph). Indeed, the depth is optimally 300mm (page 8, first line). Therefore, amended claim 1 is clearly not anticipated by Graham and dependent claims 6-9 are likewise novel.” The examiner agrees that Graham can not be considered to anticipate the claimed invention under USC 102, but the examiner however does feel the claim invention is obvious under USC 103[a] in view of Graham for the reasons discussed above.

The applicant further argues on page 8, “Closing the gap defined in Graham which Graham teaches must be at least 30mm, and is optimally 300mm to about 2mm

is more than a mere change of shape. Rather it is a change of mode of operation. As opposed to giving distance to allow for diffusion of the light, the present invention suggests capturing the light immediately after its exit from the first member. Accordingly, it is not a mere change of shape." The examiner agrees that changing the gap width will result in a change of operation [reduced diffusion] and therefore is not merely a change in shape. However, this change in operation is by no means unexpected in the art. Reduction of the gap will slightly reduce the diffusion, but will by no means destroy the inventive content of Graham. The applicant is advised that disclosed examples and/or preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiments, even if such non-preferred embodiments are described as somewhat inferior. See *In re Susi*, 169 USPQ 423 (CCPA 1971), and *In re Gurley*, 31 USPQ2d 1130 (Fed. Cir. 1994).

24. Applicant's arguments with respect to rejections under USC 103[a] in combining at least Graham with Hulse have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID R. CROWE whose telephone number is (571)272-9088. The examiner can normally be reached on 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on 571-272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ISMAEL NEGRON/
Primary Examiner, Art Unit 2885

DRC
6/19/2009